

WHAT IS CLAIMED IS:

1. A semiconductor laser apparatus having a semiconductor laser chip die-bonded to a bonding surface with a conductive die-bonding paste, said semiconductor laser chip
5 having a light-emitting point at each of opposed end surfaces thereof,

wherein a highest position at which the conductive die-bonding paste adheres to the end surfaces of the semiconductor laser chip is at a height of more than 0.01 mm
10 from the bonding surface, but is below the light-emitting point of the semiconductor laser chip.

2. A semiconductor laser apparatus according to claim 1, wherein said conductive die-bonding paste contains an epoxy
15 resin as a base material.

3. A semiconductor laser apparatus according to claim 1, wherein said conductive die-bonding paste contains silver flakes as a conductive filler.

20 4. A method of producing a semiconductor laser apparatus, comprising the steps of:

applying a conductive die-bonding paste to a bonding surface in a predetermined position thereof;

25 preheating the applied conductive die-bonding

paste and then placing a semiconductor laser chip on the preheated conductive die-bonding paste; and

heating the preheated conductive die-bonding paste to a temperature higher than a temperature at which the

5 conductive die-bonding paste starts a thermosetting reaction to thereby harden the conductive die-bonding paste.

5. A method according to claim 4, wherein a temperature at which the conductive die-bonding paste is

10 preheated is equal to or higher than a temperature at which a diluent of the conductive die-bonding paste starts to transpire, but lower than a temperature at which the conductive die-bonding paste starts a thermosetting reaction.

15 6. A method according to claim 4, wherein said conductive die-bonding paste contains an epoxy resin as a base material and is preheated at a temperature of 60°C or more but lower than 100°C.

20 7. A method according to claim 6, wherein said conductive die-bonding paste is preheated at a temperature of 60°C to 80°C inclusive.

25 8. A method according to claim 4, wherein the preheating is performed until the conductive die-bonding paste

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becomes as thin as about 0.02 mm.

9. A method according to claim 4, wherein the preheating is performed for two seconds or more.

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